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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/385,020	08/30/1999	SHUNPEI YAMAZAKI	0756-2023	8609

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EXAMINER

NGUYEN, KEVIN M

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 11/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/385,020

Applicant(s)

YAMAZAKI, SHUNPEI

Examiner

Kevin M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. The amendment filed on 8/13/2002 is entered. The rejections of claims 7-26 are maintained.

Information Disclosure Statement

2. The information disclosure statement filed 4/12/2002 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.
3. The information disclosure statement filed 4/12/2002 fails to comply with 37 CFR 1.98(a)(1), which requires a list of all patents, publications, or other information submitted for consideration by the Office. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 7-8, 10-13, 19-21 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evanicky et al (US 5,896,119) in view of Zhou (US 5,953,469).**

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6. As to claims 7, 11, 19 and 23, Evanicky et al teaches an active matrix liquid crystal display panel which includes a reflector 120 (col. 11, line 60), a back supporting glass 415a, and active transistor layer 417 (inherently having a plurality thin film transistors and a plurality of pixel electrodes, an active matrix substrate as claimed), a front supporting glass layer 415b (a counter substrate) (figure 9A, col. 12, lines 2-5). Referring to figure 10, two backlights 52 are arranged on sides of the active matrix display panel 20 in opposite to each other. Therefore, Evanicky et al teaches all of the claimed limitation of claims 7, 11 and 19, except for "each of the light emitting diodes lamps comprises a red light emitting diode (LED), a blue light emitting diode, and a green light emitting diode." However, Zhou teaches a reflective type of active matrix liquid crystal display device (col. 16, line 27) having the light source 60, LED array, each element comprising red, green and blue (RGB) sub elements (see figure 3, col. 7, lines 16-19), a waveguide 20 having an inclined surfaces 31 (figure 3, col. 7, lines 1-5). Since Zhou teaches other light sources such as liquid crystal modulated light source that may also be used (col. 15, lines 51-53). It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the LEDs or other light sources taught by Zhou in Evanicky et al's AMLCD device because this would improve the formation of video images of good quality, high resolution, and low power consumption (col. 3, lines 41-45 of Zhou).

7. As claim 8, Zhou teaches a waveguide 20 having inclined surfaces 31 (figure 3, col. 7, lines 1-5).

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8. As to claims 10, 12, 20 and 24 both Evanicky et al and Zhou teach a reflection type liquid crystal display panel including the light beam 62a being reflected by an embedded mirror reflector 31 (see figure 3, col. 7, lines 2-3).

9. As to claims 13, 21 and 25, Evanicky et al teaches an active transistor layer 417 (inherently having a plurality thin film transistors and a plurality of pixel electrodes, an active matrix substrate as claimed), a front supporting glass layer 415b (a counter substrate) (figure 9A, col. 12, lines 2-5).

10. Claims 9, 14, 22 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evanicky et al in view of Zhou as applied to claims 7, 11, 19 and 23 above, and further in view of Jacobsen et al (US 6,073,034).

11. As to claims 9, 14, 22 and 26, Evanicky et al and Zhou teach all of the claimed limitations of claims 7, 11, 19 and 23, except for "the electronic device is selected from the group consisting of a video camera, a digital camera, ..., an electronic book."

However, Jacobsen et al teaches the electronic display device which can be used as a wireless mobile telephone, or alternatively (see col. 2, lines 26-30). It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the various application of active matrix liquid crystal display panel associating back light sources taught by Jacobsen in Evanicky's and Zhou's LCD device because this would fabricate a large number of small high resolution displays on a single wafer can be increased and the cost per display can be reduced (col. 5, lines 50-53 of Jacobsen et al)

12. Claim 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evanicky et al in view of Zhou, and further in view of Okajima et al (US 5,334,993).

As to claim 15, Evanicky et al teaches an active matrix liquid crystal display panel which includes a reflector 120 (col. 11, line 60), a back supporting glass 415a, and active transistor layer 417 (inherently having a plurality thin film transistors and a plurality of pixel electrodes, an active matrix substrate as claimed), a front supporting glass layer 415b (a counter substrate) (figure 9A, col. 12, lines 2-5). Referring to figure 10, two backlights 52 are arranged on sides of the active matrix display panel 20 in opposite to each other. Therefore, Evanicky et al teaches all of the claimed limitation of claims 7, 11 and 19, except for "each of the light emitting diodes lamps comprises a red light emitting diode (LED), a blue light emitting diode, and a green light emitting diode." However, Zhou teaches a reflective type of active matrix liquid crystal display device (col. 16, line 27) having the light source 60, LED array, each element comprising red, green and blue (RGB) sub elements (see figure 3, col. 7, lines 16-19). Since Zhou teaches other light sources such as liquid crystal modulated light source that may also be used (col. 15, lines 51-53). It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the LEDs or other light sources taught by Zhou in Evanicky et al's AMLCD device because this would improve the formation of video images of good quality, high resolution, and low power consumption (col. 3, lines 41-45 of Zhou). Therefore, Evanicky et al and Zhou teach all of the claimed limitations of claim 15, except for "...coated with resin." However, Okajima et al teaches a LCD having a backlight 111, the light guide plate 13 is made of a flat plate-shaped acrylic resin (see col. 2, lines 43-44). It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the flat plate-shaped acrylic resin taught by

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Okajima et al for Evanicky et al's and Zhou's back light sources because this would prevent transmission heat emitting from a light source to a LCD plate and improve the display quality image (col. 1, lines 42-45 of Okajima).

13. As to claim 16, both Evanicky et al and Zhou teach a reflection type liquid crystal display panel including the light beam 62a being reflected by an embedded mirror reflector 31 (see figure 3, col. 7, lines 2-3).

14. As to claim 17, Evanicky et al teaches an active transistor layer 417 (inherently having a plurality thin film transistors and a plurality of pixel electrodes, an active matrix substrate as claimed), a front supporting glass layer 415b (a counter substrate) (figure 9A, col. 12, lines 2-5).

15. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Evanicky et al in view of Zhou and in view of Okajima et al as applied to claim 15 above, and further in view of Jacobsen et al (US 6,073,034).

16. As to claim 18, Evanicky et al, Zhou and Okajima et al teach all of the claimed limitations of claim 15, except for "the electronic device is selected from the group consisting of a video camera, a digital camera, ..., an electronic book." However, Jacobsen et al teaches the electronic display device which can be used as a wireless mobile telephone, or alternatively (see col. 2, lines 26-30). It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the various application of active matrix liquid crystal display panel associating back light sources taught by Jacobsen in Evanicky's and Zhou's LCD device because this would fabricate

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a large number of small high resolution displays on a single wafer can be increased and the cost per display can be reduced (col. 5, lines 50-53 of Jacobsen et al)

Response to Arguments

17. Applicant's arguments filed 8/13/2002 have been fully considered but they are not persuasive.

18. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, since Zhou teaches other light sources such as liquid crystal modulated light source may also be used (col. 15, lines 51-53). It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the LEDs or other light sources taught by Zhou in Evanicky et al's AMLCD device because this would improve the formation of video images of good quality, high resolution, and low power consumption (col. 3, lines 41-45 of Zhou).

In response to applicant's argument that claims 7, 11, 15, 19 and 23 recite "a reflection type liquid crystal panel comprising an active matrix substrate and a counter substrate, said active matrix substrate having a plurality of thin film transistor and a plurality of pixel electrodes connected with the thin film transistor." This argument is not

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persuasive because Zhou teaches "a reflective type of active matrix liquid crystal display device (col. 16, line 27)". Evanicky teaches a reflector 120 (col. 11, line 60), a back supporting glass 415a, and active transistor layer 417 (inherently having a plurality thin film transistors and a plurality of pixel electrodes, an active matrix substrate as claimed), a front supporting glass layer 415b (a counter substrate) (figure 9A, col. 12, lines 2-5). These arguments are not persuasive because one skilled in the art to recognize that TFTLCD 20 are the well-known device (col. 13, lines 52-55 of Evanicky et al).

In response to applicant's argument that claims 7, 11, 15, 19 and 23 recite "light emitted from the light source is introduced into said liquid crystal panel from sides of said counter substrate of said liquid crystal panel," page 7, lines 12-13. This argument is not persuasive because Jacobsen et al teaches a related LCD flat panel display 110a having an active matrix array 90 (see figure 2A), a LCD 506 (see col. 11, lines 23-25), an LED illumination system 400 shown in figure 7A, blue (B) 402, green (G) 404, and red (R) 406 LEDs are optically coupled to a flat diffuser element 408 (a counter substrate) around the periphery of an illumination area of 410 that is positioned adjacent the display active (see col. 11, lines 40-44). Okajima teaches a related LCD having a backlight 111, the light guide plate 13 is made of a flat plate-shaped acrylic resin (see col. 2, lines 43-44). These arguments are not persuasive because it would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the back light sources that are being provided to liquid crystal display panel taught by Jacobsen and Okajima et al. in Evanicky's and Zhou's LCD device because this would

fabricate a large number of small high resolution displays on a single wafer can be increased and the cost per display can be reduced (col. 5, lines 50-53 of Jacobsen et al) and would prevent transmission heat emitting from a light source to a LCD plate and improve the display quality image (col. 1, lines 42-45 of Okajima).

For these reasons, the rejections based on Evanicky, Zhou, Jacobsen, and Okajima have been maintained.

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Kevin M. Nguyen** whose telephone number is **703-305-**

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6209. The examiner can normally be reached on MON-FRI from 9:00-6:00 with Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reached on **703-305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231


or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Kevin M. Nguyen
Examiner
Art Unit 2674


RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600